

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application.

1.-15. (Cancelled)

16. (New) A tree harvesting apparatus adapted for mounting on a vehicle to effect continuous tree harvesting, said apparatus including:

a rotary saw for cutting a tree near ground level;

transport means adjacent said saw for gripping a tree cut by the saw and transporting the tree to and dropping said cut tree in a chipping means located at an end of the transport means distant the rotary saw for chipping the tree;

wherein, in use, when said tree harvesting apparatus is mounted on the vehicle and said vehicle driven along a row of trees, said apparatus can continuously cut and chip said trees.

17. (New) A tree harvesting apparatus according to claim 16 wherein transport means transports said cut tree in a substantially upright orientation along and inclined path to said chipping means.

18. (New) A tree harvesting apparatus according to claim 17 wherein said rotary saw is a rotary circular saw and is disposed in an inclined plane so that a leading edge of the saw is near ground level and below a trailing edge of the saw.

19. (New) A tree harvesting apparatus according to claim 18 wherein said rotary circular saw has a dished or convexly curved bottom surface for reducing possible contact area between the bottom surface of the saw and the ground.

20. (New) A tree harvesting apparatus according to claim 16 wherein said transport means includes first and second opposed conveyor means each provided with laterally extending fingers so that a cut tree is gripped by the fingers of the opposed conveyor means.

21. (New) A tree harvesting apparatus according to claim 16 wherein said chipping means is provided with a rotary chipping drum and a controllably moveable anvil adjacent said chipping drum for directing a cut tree entering said chipping means onto said chipping drum, whereby, in use, the position of the anvil can be varied to vary the angle of incidence of the tree onto the chipping drum.

22. (New) A tree harvesting apparatus according to claim 16 wherein said transport means includes a first pair of spaced apart horizontally disposed camber rotating auger rollers located at an end of the transport means nearest said chipping means between which said cut tree is gripped and advanced toward said chipper.

23. (New) A tree harvesting apparatus according to claim 22 wherein said first pair of auger rollers are divergent to allow a tree to fall therebetween after the tree has been advanced by said auger rollers.

24. (New) A tree harvesting apparatus according to claim 22 wherein the transport means includes a second pair of spaced apart rollers inclined upwardly from a lower end distant said the chipping means for gripping a trunk of the cut tree and advancing the cut tree to said chipping means.

25. (New) A tree harvesting apparatus according to claim 16 further including a pair of wheels located in advance of said transport means between which a crown of a tree passes prior to the tree being cut by the rotary saw, said wheels biased and pivotally mounted to work around and at least partially compress the crown of the tree.

26. (New) A tree harvesting apparatus adapted for mounting on a vehicle to effect continuous tree harvesting, said apparatus including:

a rotary saw for cutting a tree near ground level;

transport means adjacent said saw for gripping a tree cut by the saw and transporting the tree to and dropping said cut tree in a chipping means located at an end of the transport means distant the rotary saw for chipping the tree;

wherein said transport means includes first and second opposed conveyor means each provided with laterally extending fingers so that a cut tree is gripped by the fingers of the opposed conveyor means;

wherein said first conveyor means comprises a first endless loop chain from which a plurality of said fingers extend, and said second conveyor means comprises second and third endless chains from each of which a plurality of said fingers extend, said

second and third endless chains vertically spaced from each other and wherein the first endless chain is located vertically intermediate said second and third endless chains;

wherein, in use, when said tree harvesting apparatus is mounted on the vehicle and said vehicle driven along a row of trees, said apparatus can continuously cut and chip said trees.

27. (New) A tree harvesting apparatus according to claim 26 wherein said second conveyor means is coupled to a floating frame that allows said second conveyor means to move relative to said first conveyor means.

28. (New) A tree harvesting apparatus according to claim 27 wherein said floating frame is arranged to allow said second conveyor means to fish tail.

29. (New) A tree harvesting apparatus according to claim 28 wherein said floating frame is further arranged to allow lateral sliding motion of said second conveyor means relative to said first conveyor means.

30. (New) A tree harvesting apparatus adapted for mounting on a vehicle to effect continuous tree harvesting, said apparatus including:

a rotary saw for cutting a tree near ground level;

transport means adjacent said saw for gripping a tree cut by the saw and transporting the tree to and dropping said cut tree in a chipping means located at an end of the transport means distant the rotary saw for chipping the tree, said chipping means

being provided with a rotary chipping drum and a controllably moveable anvil adjacent said chipping drum for directing a cut tree entering said chipping means onto said chipping drum, the anvil being moveable to vary the angle of incidence of the tree onto the chipping drum;

wherein, in use, when said tree harvesting apparatus is mounted on the vehicle and said vehicle driven along a row of trees, said apparatus can continuously cut and chip said trees.

31. (New) A tree harvesting apparatus according to claim 30 wherein transport means transports said cut tree in a substantially upright orientation along and inclined path to said chipping means.

32. (New) A tree harvesting apparatus according to claim 31 wherein said rotary saw is a rotary circular saw and is disposed in an inclined plane so that a leading edge of the saw is near ground level and below a trailing edge of the saw.

33. (New) A tree harvesting apparatus according to claim 32 wherein said rotary circular saw has a dished or convexly curved bottom surface for reducing possible contact area between the bottom surface of the saw and the ground.

34. (New) A tree harvesting apparatus according to claim 30 wherein said transport means includes first and second opposed conveyor means each provided with laterally

extending fingers so that a cut tree is gripped by the fingers of the opposed conveyor means.

35. (New) A tree harvesting apparatus according to claim 34 wherein said first conveyor means comprises a first endless loop chain from which a plurality of said fingers extend, and said second conveyor means comprises second and third endless chains from each of which a plurality of said fingers extend, said second and third endless chains vertically spaced from each other and wherein the first endless chain is located vertically intermediate said second and third endless chains.

36. (New) A tree harvesting apparatus according to claim 35 wherein said second conveyor means is coupled to a floating frame that allows said second conveyor means to move relative to said first conveyor means.

37. (New) A tree harvesting apparatus according to claim 36 wherein said floating frame is arranged to allow said second conveyor means to fish tail.

38. (New) A tree harvesting apparatus according to claim 37 wherein said floating frame is further arranged to allow lateral sliding motion of said second conveyor means relative to said first conveyor means.

39. (New) A tree harvesting apparatus according to claim 30 wherein said transport means includes a first pair of spaced apart horizontally disposed camber rotating auger

rollers located at an end of the transport means nearest said chipping means between which said cut tree is gripped and advanced toward said chipping means.

40. (New) A tree harvesting apparatus according to any claim 39 wherein said first pair of auger rollers are divergent to allow a tree to fall therebetween after the tree has been advanced by said auger rollers.

41. (New) A tree harvesting apparatus according to claim 39 wherein the transport means includes a second pair of spaced apart rollers inclined upwardly from a lower end distant said the chipping means for gripping a trunk of the cut tree and advancing the cut tree to said chipping means.

42. (New) A tree harvesting apparatus according to claim 30 further including a pair of wheels located in advance of said transport means between which a crown of a tree passes prior to the tree being cut by the rotary saw, said wheels biased and pivotally mounted to work around and at least partially compress the crown of the tree.

43. (New) A tree harvesting apparatus according to claim 30 further including a pivot arm pivotally coupled about an axis of rotation of said chipping drum, said anvil being carried by said pivot arm whereby, pivoting of said pivot arm about said axis varies said angle of incidence.

44. (New) A tree harvesting apparatus according to claim 43 further including a pair of telescopically related plates, a remote end of a distant one of said plates pivoted to an fixed point and an adjacent end of a proximal one of said plates coupled to said pivot arm adjacent said anvil.

45. (New) A tree harvesting apparatus adapted for mounting on a vehicle to effect continuous tree harvesting, said apparatus comprising:

a rotary saw for cutting a tree near ground level;

a transporter adjacent said saw that grips a tree cut by the saw and transports the tree to, and drops said cut tree in, a chipper located at an end of the transporter distant the rotary saw for chipping the tree, said chipper being provided with a rotary chipping drum and a controllably moveable anvil adjacent said chipping drum for directing a cut tree entering said chipper onto said chipping drum, the anvil being moveable to vary the angle of incidence of the tree onto the chipping drum, the transporter comprising first and second opposed conveyors each provided with laterally extending fingers between which a cut tree is gripped and where said first conveyor comprises a first endless loop chain from which a plurality of said fingers extend, and said second conveyor comprises second and third endless chains from each of which a plurality of said fingers extend, said second and third endless chains vertically spaced from each other and wherein the first endless chain is located vertically intermediate said second and third endless chains.

46. (New) A tree harvesting apparatus according to claim 45 wherein transporter transports said cut tree in a substantially upright orientation along an inclined path to said

chipper.

47. (New) A tree harvesting apparatus according to claim 46 wherein said rotary saw is a rotary circular saw and is disposed in an inclined plane so that a leading edge of the saw is near ground level and below a trailing edge of the saw.

48. (New) A tree harvesting apparatus according to claim 47 wherein said second conveyor is coupled to a floating frame that allows said second conveyor to move relative to said first conveyor.

49. (New) A tree harvesting apparatus according to claim 48 wherein said floating frame is arranged to allow said second conveyor to fish tail.

50. (New) A tree harvesting apparatus according to claim 49 wherein said floating frame is further arranged to allow lateral sliding motion of said second conveyor relative to said first conveyor.

51. (New) A tree harvesting method comprising:
providing a vehicle with a rotary saw, a transporter and a chipper, the chipper further provided with a rotary chipping drum;
cutting a tree near ground level with the rotary saw;
operating the transporter to transport the cut tree to the chipper;
dropping the cut tree into the chipper; and,

directing the cut tree onto the rotary chipping drum to chip the cut tree.

52. (New) A method according to claim 51 further comprising:

providing the chipper with a movable anvil adjacent the chipping drum and moving the anvil to vary an angle of incidents of the cut tree onto the chipping drum.

53. (New) The method according to claim 51 wherein the transporter transports the cut tree in a substantially upright orientation along an inclined path to the chipper.

54. (New) The method according to claim 51 further comprising disposing the rotary saw in an inclined plane with a leading edge of the rotary saw being near ground level and below a trailing edge of the rotary saw.

55. (New) The method according to claim 51 further comprising providing the transporter with first and second opposed conveyors each provided with laterally extending fingers between which a cut tree is gripped.

56. (New) The method according to claim 55 further comprising providing the first conveyor with a first endless loop chain from which a plurality of said fingers extend, and wherein the second conveyor is provided with second and third endless chains from which a further plurality of said fingers extend, the second and third endless chains being vertically spaced from each other and the first endless chain being located vertically intermediate the second and third endless chains.

57. (New) The method according to claim 56 further comprising coupling the second conveyor to a floating frame whereby the second conveyor is able to move relative to the first conveyor.